

What is claimed is:

1. A releasable window assembly for an aircraft, the aircraft having a sidewall with an inner perimeter that defines an opening, the assembly comprising;

an outer window frame;

5 a center window frame attached to the outer window frame; and

an inner window frame attached to the center window frame and releasably attached to the sidewall, the inner window frame including a releasable coupling mechanism that includes at least one deformable hook and boss for releasably attaching the inner window frame to the sidewall and for indexing a location for attaching the inner window frame to the sidewall.

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2. The window assembly of Claim 1, wherein the releasable coupling mechanism includes first and second engaging mechanisms, wherein the first engaging mechanism includes a first flange with a first plurality of teeth and the second engaging mechanism includes a second flange, the first plurality of teeth being arranged to toothedly engage the second flange.

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3. The window assembly of Claim 2, wherein the second flange includes a second plurality of teeth, the second plurality of teeth being arranged to toothedly engage the first plurality of teeth and rotatively self-lock in a first direction and not in a second direction that is opposite the first direction.

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4. The window assembly of Claim 2, wherein the first engaging mechanism further includes one or more rotatively coupled hooked arms to engage the first and second engaging mechanisms.

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5. The window assembly of Claim 4, wherein the first engaging mechanism further includes a boss which engages the sidewall when the first engaging mechanism is rotated into position.

6. The window assembly of Claim 2, wherein the second engaging mechanism further includes a torsion spring assembly for applying torque to engage the second plurality of teeth and the first plurality of teeth.

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7. The window assembly of Claim 6, wherein the torsion spring assembly further includes a disengagement tab mechanism arranged for disengaging the first and second engaging mechanisms.



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8. The window assembly of Claim 4, wherein the first engaging mechanism further includes one or more pin holes along a perimeter of the inner window frame arranged for rotating the hooked arm of the first engaging mechanism to lock the first engaging mechanism against the sidewall.

5        9. The window assembly of Claim 8, wherein the one or more pin holes along the perimeter of the inner window frame permits independent rotation of the first engaging mechanism to lock the hooked arm against the sidewall.

10        10. A method of releasably coupling a window assembly to an opening of an inner perimeter of an aircraft sidewall, the method comprising:  
providing an outer window frame;  
attaching a center window frame to the outer window frame;  
attaching an inner window frame to the center window frame; and  
releasably attaching the inner window frame to the sidewall, the inner window  
frame including a releasable coupling mechanism that includes at least one  
15        deformable hook and boss for releasably attaching the inner window frame to the sidewall and for indexing a location for attaching the inner window frame to the sidewall.

20        11. The method of Claim 10, wherein releasably attaching the inner window frame includes toothedly engaging a first plurality of teeth in a first flange of a first engaging mechanism with a second flange of a second engaging mechanism.

12. The method of Claim 11, wherein toothedly engaging the first plurality of teeth includes engaging the first plurality of teeth with a second plurality of teeth in the second flange to rotatively self-lock in a first direction and not in a second direction that is opposite the first direction.

25        13. The method of Claim 11, wherein attaching the inner window frame further includes engaging the first engaging mechanism and the second engaging mechanism with one or more rotatively coupled hooked arms.

30        14. The method of Claim 13, wherein engaging mechanism and the second engaging mechanism includes engaging the sidewall with a boss when the first engaging mechanism is rotated into position.



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15. The method of Claim 12, wherein toothedly engaging the first plurality of teeth with the second plurality of teeth includes applying torque to the first and second plurality of teeth with a torsion spring assembly in the second engaging assembly.

16. The method of Claim 15, further comprising disengaging the first and second engagement mechanisms with a disengagement tab mechanism in the torsion spring assembly.

17. The method of Claim 13, further comprising rotating the first engaging mechanism by releasably attaching one end of the hook arm to one of a plurality of pin holes along the perimeter of the inner window frame.

18. The method of Claim 15, wherein adjusting the torque applied to the first engaging mechanism adjusts tension between the window assembly and the sidewall, and the second engaging mechanism locks the first engaging mechanism in position.

19. A releasable window assembly for an aircraft, the aircraft having a sidewall with an inner perimeter that defines an opening, the assembly comprising:

an outer window frame;  
a center window frame attached to the outer window frame; and  
an inner window frame attached to the center window frame and releasably attached to the sidewall, the inner window frame including a releasable coupling mechanism that includes at least one deformable hook and boss for releasably attaching the inner window frame to the sidewall and for indexing a location for attaching the inner window frame to the sidewall;  
wherein the releasable coupling mechanism includes first and second engaging mechanisms; wherein the first engaging mechanism includes a first flange with a first plurality of teeth and the second engaging mechanism includes a second flange with a second plurality of teeth, the second plurality of teeth being arranged to toothedly engage the first plurality of teeth; and  
wherein the second engaging mechanism further includes a torsion spring assembly for applying torque to engage the second plurality of teeth and the first plurality of teeth.

20. The window assembly of Claim 19, wherein the torsion spring assembly further includes a disengagement tab mechanism arranged for disengaging the first and second engaging mechanisms.



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21. The window assembly of Claim 19, wherein the first engaging mechanism further includes one or more pin holes along a perimeter of the inner window frame arranged for engaging the hooked arm to the sidewall.

22. The window assembly of Claim 21, wherein the one or more pin holes along the  
5 perimeter of the inner window frame permits independently adjusting torsion of the first engaging mechanism, and the second engaging mechanism locks the first engaging mechanism in place via the torsion spring assembly.

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